

FUEL LINE

Defense Energy Support Center

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**SPECIAL
EUROPEAN
EDITION**



FUEL LINE

Fuel Line is an official publication distributed quarterly by and for the Defense Energy Support Center and fuel-oriented clientele. *Fuel Line* is prepared by desktop publishing applications and designed to provide timely, factual information on policies, plans, operations, and technical developments of the Center and interrelated subject matter. Views and opinions expressed in the *Fuel Line* are not necessarily those of the Department of Defense.

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On the cover...scenes from Defense Energy Support Center field activities in Germany, Belgium and the United Kingdom

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Located about 80 miles from DESC-Europe's headquarters in Germany, this field office provides fuel to customers in Germany, Bosnia-Herzegovina, Croatia and Hungary and oversees the Mannheim/Rheinau coal yard, the Department of Defense's only coal storage facility. Meet Maj. Shawn Walsh, the office's first commander, and take a ride on a coal crane perched above the Rhine River.

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As commander of DESC-Europe, he has a far-reaching view of his region's operations, leaving behind the literal parameters of the European area of responsibility. "Interconnectivity" may best describe how he sees world events and their effect on DESC's mission. Find out how he responds to challenge and why Europe provides the right setting for this commander's collaborative approach to customer support.

Defense Energy Support Center-NATO 18

What's DESC doing at NATO? Representing its interests and coordinating with other countries in the world arena on fuel matters. In fact, a one-man office located in Brussels ensures that DESC remains a visible and active presence in multinational negotiations. Attend an all-day meeting of the NATO Pipeline Committee and find out exactly who represents DESC and what kinds of fuel issues come before the global round table.

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Get some vital statistics on DESC's facilities and customers in the United Kingdom, including Royal Air Force bases Lakenheath and Mildenhall. Find out what a "cut and cover" storage tank is, the length and capacity of the United Kingdom's major pipeline system, and a few English to American word translations.

Phytoremediation 28

By planting trees on fuel terminal property, DESC makes use of an innovative process where plant roots clean contaminated soil. It's a low-cost, low-maintenance, high-aesthetic way to protect the environment. Learn why and how the system works, what kinds of trees are best suited for the job, and who has initiated phytoremediation projects.

From the Director

The Defense Energy Support Center continues to meet its customers' worldwide needs and provide high quality products and services. This is only possible through your continual expertise and dedication to the job.

To stay "No. 1," however, takes time and effort. One part of that effort has been launched with an Integrated Process Team (IPT) of senior DESC personnel to review the missions and functions of DESC-Fort Belvoir and DESC-Americas, to eliminate friction and cost in performing distribution functions.

After a contracted review found potential improvements in how we do business, the DESC leadership, including DESC-Americas, agreed we needed to set up an expert team to design a "best solution." One of the study's recommendations was that DESC consolidate all its U.S.-focused distribution operations at a single site. Obviously, if we were to do that, some sites would no longer perform the tasks they do today.

DESC is successful because of the people who dedicate their time and effort to making this a great organization. Some will naturally be concerned about a study that might recommend closing some of DESC's CONUS offices. But I want everyone to know that we are not going to forget the source of our

strength in deciding how best to restructure.

Let me give you a dramatic example of how DLA has been able to restructure and preserve opportunities for its employees. When I first arrived at DLA in 1995, we were in our second full fiscal year of running DoD's hardware distribution depots. Losses in the first year were over \$270 million and not improving. Now, after many structural and business process changes, the distribution system is

Now is the time to design the next chapter in our world-class energy operation.

no longer a loss leader. Over 12,000 FTE [Full Time Equivalent] reductions took place; but only about 500—or 4%—were involuntarily separated. That's a strong record, and my goal would be to do better in DESC.

But there are two key points people need to bear in mind. First, when the subject first came up in Town Hall meetings in the Regions, I told you that it would take two years to effect any major change. As they say in the news, "that's my story, and I'm sticking to it." If changes are recommended and approved, they may begin sooner; but people will



*DESC Director
Jeffrey A. Jones*

have a two-year window to make key personal decisions.

Second, the IPT has only started and is focusing on their process. It will be months before any recommendations are issued. Their charge is basically to build a distribution concept for the next 10 years' needs, balancing both personal opportunities for the work force and business process efficiency through the use of technology. It might be a tough balance to strike, but that's why we have our best people working the issue—Bill Robinson and Col. Dave Russell as co-chairs; Mike Corbett, Dennis Edwards, Don Peschka, and Lee Oppenheim as IPT members.

The one thing I want everyone in DESC to know is, we will keep you up to speed on what is going on, so you don't have to guess. If we get to the point that a major decision needs to be made, you'll get that decision promptly and you'll also get information on how it affects you personally—if it does, that is.

Now is the time to design the next chapter in our world-class energy operation. Just as I count on all of you every day, I'll do everything I can to make this an opportunity for you. ★

From the Navy Petroleum Office. . .

2000 American Petroleum Institute Award

The Navy Petroleum Office recently recognized the winners of the 2000 American Petroleum Institute (API) Award. The award is presented annually to promote excellence in fuel management and to recognize those personnel and activities that made the most significant contributions to Navy and Marine Corps fuel operations and the Fleet fuel support mission during the previous calendar year.

This year's winners are:

Best Navy Bulk Fuel Terminal: Naval Support Facility Diego Garcia, British Indian Ocean Territory

Best Navy Aviation Fuel Activity: Naval Air Station Oceana, Virginia

Best Marine Corps Fuel Activity: Marine Corps Air Station Camp Pendleton, California



Naval Support Facility Diego Garcia, British Indian Ocean Territory, wins API award for best Navy bulk fuel terminal. Pictured left to right: Rear Adm. Keith W. Lippert, commander, Naval Supply Systems Command, and chief of Supply Corps; Red Cavaney, president and CEO of API; Capt. J.D. Christensen, commanding officer, Diego Garcia; Lt. Cmdr. M.J. Gardella, fuel officer, Diego Garcia; and Capt. Stu Funk, commanding officer, Navy Petroleum Office.

Each participant was evaluated on an overall strict set of criteria that included fuel operations and mission support, inventory control and accountability, quality surveillance, facility and equipment maintenance, facility planning and project execution, training, safety, fire prevention, environmental compliance, administration, and significant accomplishments. The selection process entailed a detailed administrative review and endorsement of each application by the activity's major claimant, a technical evaluation by senior fuel analysts at the Navy Petroleum Office, and an in-depth on-site inspection of the finalists in each category. ★

DoD Fraud Hotline Alert

To report instances of fraud, waste, abuse, or mismanagement in Defense Logistics Agency/Department of Defense programs and operations, contact one of the following:

- Visit the DLA Complaint Program Web site: www.complaints.hq.dla.mil.
- Call the DLA Complaint Program at 1-800-411-9127 or Defense Switched Network (DSN) 427-5447.
- Write to: Chief, Referral Review Team (CAASR), Defense Logistics Agency, 8725 John J. Kingman Road, Suite 2533, Fort Belvoir, VA 22060-6100.
- Visit the DoD Defense Hotline Web site: www.dodig.osd.mil/hotline.
- Call the DoD Defense Hotline Program at 1-800-424-9098.
- Write to: Defense Hotline, The Pentagon, Washington, DC 20301-1900.
- Visit the DoD Defense Hotline by e-mail: hotline@dodig.osd.mil.

In Remembrance. . .

David Kronberger, a public affairs specialist at the Defense Energy Support Center, died on July 20 of cancer. He joined DESC in March 1999 following retirement from the U.S. Navy and a position with the Federal Aviation Administration in Houston.

Mr. Kronberger's photographs of DESC events have appeared in *Fuel Line* and on the DESC intranet.

A formal military funeral will take place in California. ★

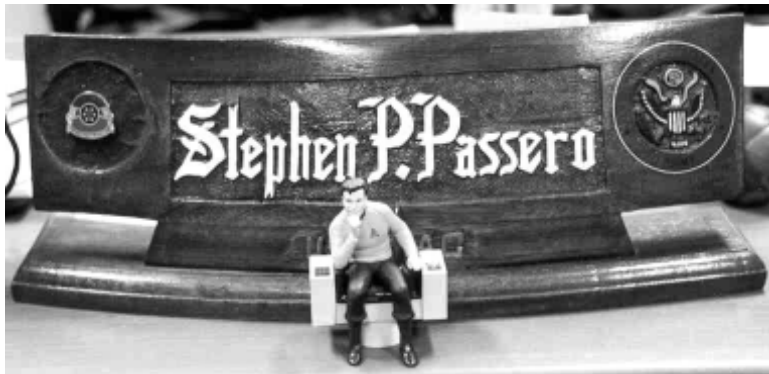
Defense Energy Support Center— *Europe*

By Claire McIntyre

In many ways, the Defense Energy Support Center-Europe is like a space station far from the agency's home base at Fort Belvoir, yet undeniably connected by strong, invisible cables that never break, never fray, although they may sway and shudder from time to time. Such movements are the inevitable result of operating a U.S. fuel agency in the most extraordinary of settings.

Consider the area of responsibility for DESC-Europe—the region supplies fuel to Germany, the United Kingdom, Belgium, France, Italy, Spain, Greece, Crete, Turkey, Norway, Denmark, Hungary, Croatia, Bosnia-Herzegovina, the Netherlands and Africa. Fewer than 60 employees comprise DESC-Europe in the middle of different countries, different cultures, different languages, different ways of doing business. In fact, the ever-present need to coordinate with other cultures is hard to imagine; the details, the subtleties, the unspoken rules make all the difference in international transactions.

Consider that DESC-Europe must also uphold the regulations and procedures of its U.S. base. Its mission is not an easy one, but staff members most likely did not move overseas because they were looking for an easy time of it. If they were looking for a challenge, however, they most likely have been richly rewarded.



But DESC-Europe, like any field activity, can remain an abstraction to many at the home base without a sense of its day-to-day environment and, more importantly, some of the people who “man the ship.” They frequently move about from site to site in carrying out their responsibilities. They also frequently rotate their tour of duty overseas—military personnel rotate about every two years, civilian personnel can opt

for a five-year term, sometimes with return rights to their previous job in the United States. But countless other factors may also find personnel leaving their jobs for other ports. So, to look at the staff of DESC-Europe, it becomes necessary to take a “freeze frame” for a particular moment. They are a dynamic lot by mission alone.

DESC-Europe Commander Col. Stephen Passero recently replaced his office desk with something more to his liking. The former furniture, he said, was so large and imposing that it made him feel like Captain Kirk on

the bridge of the Starship Enterprise. Ironically, his replacement desk still exudes the aura of a starship commander—curved, long, simple lines. Despite his attempts, he'll never be able to really shake the association. “Welcome to my world,” he says from behind the desk.

Welcome to DESC-Europe. . .

DESC-EUROPE HEADQUARTERS. . .WIESBADEN, GERMANY



The American Arms Office Tower and Hotel



DESC's European headquarters offices are located in Wiesbaden, Germany, in the American Arms Office Tower. With just six floors and an open center, atrium-type interior, the American Arms building provides a cozy setting for both defense personnel and guests. A long corridor joins the office tower with a second tower accommodating hotel rooms. Light pours in at the far end of the DESC office wing from a glass door.

How do you get a sense of DESC's European fuel mission when the area of responsibility covers so much territory? In pieces. Take it in pieces. Total DESC European

personnel number about 52. Headquarters personnel administer the region's operations. Take a walk down the hall. . .

An information systems specialist handles all of DESC-Europe's telecommunications and technical needs. For the past two and a half years, Dawn Overstreet has filled that role, traveling between DESC's main sites at Germany (Wiesbaden and Miesau), Italy (Livorno) and the United Kingdom (London) to attend to everything from e-mail systems to Internet links to server glitches. She will leave within the next several weeks to return to life in the United States.

Jeannie McGuire has been in charge of DESC-Europe's budget for the last year and a half, making sure the region has adequate operational and travel funds. Ed Rendleman, whose duties include processing and maintaining TDY (temporary duty) orders, personnel actions and demographic studies, prepares for retirement. Two contracting personnel, Sam Bekele and Greg Winstead, administer contracts in Croatia, Bosnia-Herzegovina and Hungary.

Frank Lee and Bob Krouse administer DESC's Maintenance, Repair and Environmental program in Europe. Under the program, military installations can secure funding to repair and maintain fuel facilities to prevent or correct environmental hazards.

It's just a slice of the headquarters' operations. But, at any given time, DESC-Europe personnel are on the move between cities or countries. To catch a glimpse, get in the car and drive. . .

DESC-Europe Area of Responsibility: Germany, the United Kingdom, Belgium, France, Denmark, Italy, Spain, Greece, Crete, Turkey, Norway, Hungary, Croatia, Bosnia-Herzegovina, the Netherlands and Africa.

Into-Plane Program: 54 locations (providing fuel for military and federal agencies at commercial airports) in Europe; 23 locations in Africa.

Bunkers Program: 36 locations in Europe (providing direct delivery of ships' bunkers fuels).

Field Offices: Miesau, Germany (with oversight over field office in Split, Croatia); London; Brussels; Livorno, Italy (with oversight over field offices in Rota, Spain and Incirlik, Turkey).

Defense Energy Support Center— Miesau

(DESC-Central Europe)

[Now known as DESC-Central Europe, DESC-Miesau took its new name and a new location at Pulaski Barracks, near Kaiserslautern, Germany, in July 2000, after this article was written. The Kaiserslautern joint U.S. Army/Air Force military community, also known as “K-Town,” is located about 60 miles southwest of DESC-Europe’s headquarters in Wiesbaden.]

Maj. Shawn Walsh, USA, commander of DESC-Miesau, oversees 26 personnel, 18 of whom are non-U.S. civilians (17 German; one French). The office’s Central European area of responsibility consists mainly of providing fuel to customers in Germany and supporting Stabilization Force (SFOR) operations in Bosnia-Herzegovina, Croatia and Hungary, although Denmark, France and Benelux (a union of Belgium, the Netherlands and Luxembourg) also fall within its scope. Defense Fuel Support Points are located at Speyer, Grafenwöhr, Hohenfels, Wiesbaden, Ramstein Air Base, Rhein-Main Air Base, Spangdahlem Air Base and Chievres Air Base (Belgium). While DESC-Miesau’s support points are equipped to receive, distribute, store and test fuel, they also include DESC’s only coal yard (see related story).

Fuel is supplied to Central European customers mainly via the Central Europe Pipeline System, although a small amount of JP-8 is also

provided to and stored in Denmark from the Northern European Pipeline System in support of combined U.S./Danish military exercises.

At the request of NATO, the U.S. (through the Defense Energy Support Center) became Role Specialist Nation for bulk petroleum support to the NATO peacekeeping forces in Bosnia-Herzegovina. DESC supplied the first shipment of fuel to the area in February 1996. “Among the NATO forces there may be differences in cultures, food and language,” observes Maj. Walsh. “But everyone burns the same types of fuel. When you take away competition between countries, you realize economies of scale in contracting and give one voice to the contractor.”

Maj. Walsh is quick to point out how contractor support has been especially important in supporting SFOR operations. “It’s an unprecedented mission for DESC, serving as Role Specialist Nation, and we have been highly successful,” he says. A constant question: Will contractors risk going into Bosnia? He turns to a wall map designating minefields in Bosnia and answers “yes.” However, Maj. Walsh notes that, while DESC contractors can travel the roads unimpeded, the SFOR military follow strict guidelines. “According to Stabilization Force requirements, one



DESC-Miesau Commander Maj. Shawn P. Walsh, USA

soldier, one weapon and two people need to be in every vehicle at any given time,” he points out.

He also notes that when the United States first became involved in the peacekeeping operation, the novelty drew considerable interest from DESC military and civilian volunteers ready to deploy to the area. Now, the relatively routine nature of the mission has resulted in fewer “takers” to serve in that region of the world. However, DESC’s Split, Croatia, office recently acquired two permanent employee slots for a traffic manager and an ordering officer to serve two-year terms. Everyone else rotates every six months in Split. Maj. Walsh points out that the ordering officer position was recently filled by Ruth Norwood, a civilian who brings more than 60 years of work experience to the job.

While personnel at DESC-Europe headquarters at Wiesbaden concentrate on strategic planning, observes Maj. Walsh, DESC-Miesau personnel execute the plans. By way of example, he explains, “During the air war over Yugoslavia, U.S. Air Force Europe logisticians passed wartime fuel requirements to Wiesbaden. When Wiesbaden

directed Miesau to move additional product to Ramstein Air Base, Miesau independently met the requirements by coordinating tanker truck deliveries to augment pipeline deliveries to the base.”

After serving two and a half years as DESC-Miesau’s first commander, Maj. Walsh will serve another six months before rotating out. “This is the best job for an Army major,” he says as he reflects on his post. “I’ve been able to work with NATO, two pipelines, \$30 million worth of fuel a year and true professionals. The thing that makes this job is the people. But I’m a soldier at heart,” he confesses in pondering the future. “I want to sleep in a foxhole and get dirty.”★

[Maj. Walsh’s article “Bulk Fuel Support in Bosnia,” published in the July/Aug. 1999 edition of the Army Logistician, may be accessed at www.almc.army.mil/alog/JulAug99/MS436.htm.]

DESC-Miesau facilities include eight Defense Fuel Support Points, the Central Europe Pipeline System, the Northern European Pipeline System, and 116 Post, Camps and Stations locations (providing commercial heating and ground fuel products).

Area of Responsibility: Germany, Denmark, France, Benelux, Hungary, the Former Republic of Yugoslavia, the Mannheim/Rheinau coal yard and DESC’s field office located in Split, Croatia.

Central Europe Pipeline System—6,000 kilometers of pipeline and storage facilities located in France, Germany, Belgium, Luxembourg and the Netherlands; annual budget—\$8,975,000; inventory—126 million gallons

Northern European Pipeline System—750 kilometers of pipeline located from northern Germany to northern Denmark; annual budget—\$500,000; current inventory—9.6 million gallons



Wolfgang Leis, left, and Thomas Ecker, supply technicians



Hans-Werner Arend, supply technician



Gabriela Kourlas, administrative assistant



Jose Zaurin-Casanova, pipeline specialist



Hauke Dins, leader, inventory and pipeline section



Gunther von Dungen, chief, operations branch



Dieter Hemm, transportation officer

The Mannheim-Rheinau Coal Yard

LOCATION: 75 MILES EAST OF MIESAU

After World War II, in 1945, Germany's Mannheim-Rheinau Coal Yard, the Department of Defense's only coal storage facility, opened its doors to U.S. forces. Situated parallel to the Rhine River, the coal yard runs three-fourths of a mile long and about 450 feet wide. Its operational changes over the years largely mirror changes in Europe itself.

Conversion to district heat, or alternative forms of energy, in addition to a reduction in military bases located in Germany, has drastically reduced the amount of coal in demand. In 1948, the coal yard employed 400 workers. In the early 1990s, the figure dropped to 40. Today, eight employees work at the coal yard.

Coal is received by barge, truck and rail car. On-site equipment includes three overhead cranes, three front-loaders, five bobcat loaders and two forklifts. Personnel consists of one crane operator, two mechanics, one yard supervisor, three engineering equipment operators and one quality representative.

Like fuel, coal is tested to ensure quality control when shipments are received. A coal crusher produces three-pound samples for laboratory quality tests that determine levels of

sulfur, moisture and BTUs (British thermal units). The facility also contains a woodworking and metalworking shop (i.e., for emergency repair of barges, rail cars and trucks as well as equipment maintenance), bunker storage that includes the FSII (Fuel System Icing Inhibitor) additive, and a locker room.

There are two types of coal—anthracite and bituminous.



Coal bucket.

Anthracite has a hard, smooth, shiny surface. Bituminous is soft and sooty. Eighty percent of the yard's coal is bituminous. Because the coal is subject to spontaneous combustion, thermometers are placed inside the mounds of bituminous to monitor and control the temperature.

A crane sits high on an erector set-type bridge poised above rail tracks and coal mounds. The bridge's mobility allows it to move

along the waterside as the crane unloads coal from barges; the crane also loads coal into trucks and railcars as well as depositing it into storage areas. It takes years for a crane operator to be properly trained to operate the equipment, explains Gunther von Dungen, chief of DESC-Miesau's operations branch, as he looks up at the currently stationary apparatus perched high overhead. Attached to the crane by

long cables is a bucket to move coal from one point to another. He is subtle as he quietly asks the question: "You're not afraid of heights are you?"

Before you know it, you are inside the crane's cockpit—about 60 feet above ground level. Not long afterward, the crane operator arrives, removes the plexiglass from the bottom portion of the "windshield" and

takes the controls. "He has to have a clear view of the ground," explains Mr. von Dungen about the missing panel. As the crane begins to slide quickly along the length of the bridge, you experience the coal yard from a unique perspective—looking down at the coal as the bucket scoops, carries and releases the black chunks. Reaching the end of the bridge at the waterside, the crane turns 180 degrees with nothing between the cockpit and the Rhine River, about 90 feet below.

Out of necessity, the crane moves quickly. First, time is money and coal must be loaded and unloaded expeditiously to avoid additional charges (demurrage). Second, the bucket swings wide when not resting on the ground. The crane operator must be able to avert any potential accidents related to a swinging coal bucket through expert maneuvering. ("Your car may be parked a little too close. There could be damage," caution personnel looking down from inside the cockpit. A little coal yard humor.)

Back on the ground, inside the coal yard offices, the crane riders decompress. Some confess to cloaked anxiety. Everyone agrees it's a memorable way to experience coal yard operations.

Soot coats the yard under cold and drizzly skies. But it's warm inside and the walls are filled with history.★



Left to right: Lt. Col. Jeffrey Shriver, chief of DESC-Europe's administrative division; Rolf Keller, coal yard supervisor; Juergen Ziegler, coal yard lead mechanic; Gunther von Dungen, chief of DESC-Miesau's operations branch; and Reinhard Slopianka, coal yard mechanic.



Above and left: Mobile bridge allows crane to move along Rhine River to unload coal from barges. The crane also loads coal into trucks, railcars and storage areas.



Managed by: Defense Energy Support Center-Miesau

Customers: Ramstein and Spangdahlem Air Bases (United States Air Forces in Europe); Mannheim, Bamberg and Kaiserslautern Army Bases (United States Army Europe)

1999 Purchase: 10,000 metric tons from France. Value: \$1.07 million

Inventory: 34,020 metric tons. Value: \$3.46 million



Mechanic Juergen Ziegler makes repairs in coal yard's woodworking and metalworking shop.

Defense Fuel Support Point Speyer

LOCATION: 75 MILES SOUTHEAST OF MIESAU

With a total storage capacity of 5 million barrels of fuel, the Defense Fuel Support Point located at Speyer, Germany, is one of the largest fuel terminals in southern Europe. Three tanks, with a total capacity of 136,000 barrels, are dedicated to the Defense Energy Support Center.

In addition to barge deliveries, fuel, mostly Jet A-1, travels 700 miles through the Central European Pipeline System to the Speyer terminal. The terminal issues about 30,000 barrels of fuel per month via rail car and truck. Barge receipts and issues have been instrumental in supporting U.S. forces in the Balkans over the past few years.

Contractor-owned and -operated, the terminal employs 32 personnel and stretches a mile long and a half mile wide.

Richard Schmitt, DESC-Miesau's quality surveillance representative, points out the seemingly endless array of state-of-the-art equipment, from vapor and water recovery systems to ensure compliance with environmental regulations, to an automatic gauging system on each tank. A computer tracks activity at the truck loading rack, indicating which trucks are loading which fuel at which positions.

Another computer indicates the amount of liquid in each storage tank. "Available product is the



Speyer tank farm.

amount of fuel you can actually retrieve from the tank," explains Mr. Schmitt. "Total space refers to the capacity of the tank. But you have to check the tanks at least once a week for water content resulting from condensation. And every tank has a double bottom for leak control."

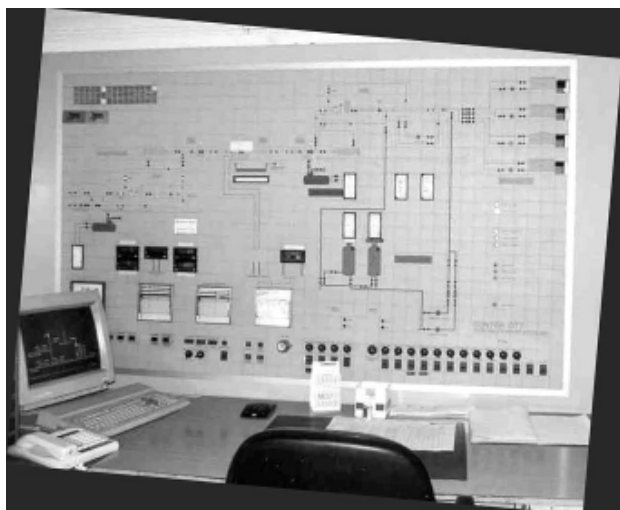
At the rail tracks, Mr. Schmitt displays the control room for rail car loading. An operator overlooks the loading ramp from an elevated seat



One of two rail car loading points at DFSP Speyer. Control room sits to the right at top of wall. Operator enters weight of product into computer before loading begins.

and positions and loads the rail cars and weighs the product through automated processes. Opening and closing of the rail car hatches must be accomplished manually, however.

With its technology and flexibility, the Speyer terminal has proven invaluable to DESC in supporting military operations in the Balkans and U.S. forces in Central Europe.★



Pipeline control board. Operator controls pumps and valves and checks fuel density, quantity, temperature and pressure.

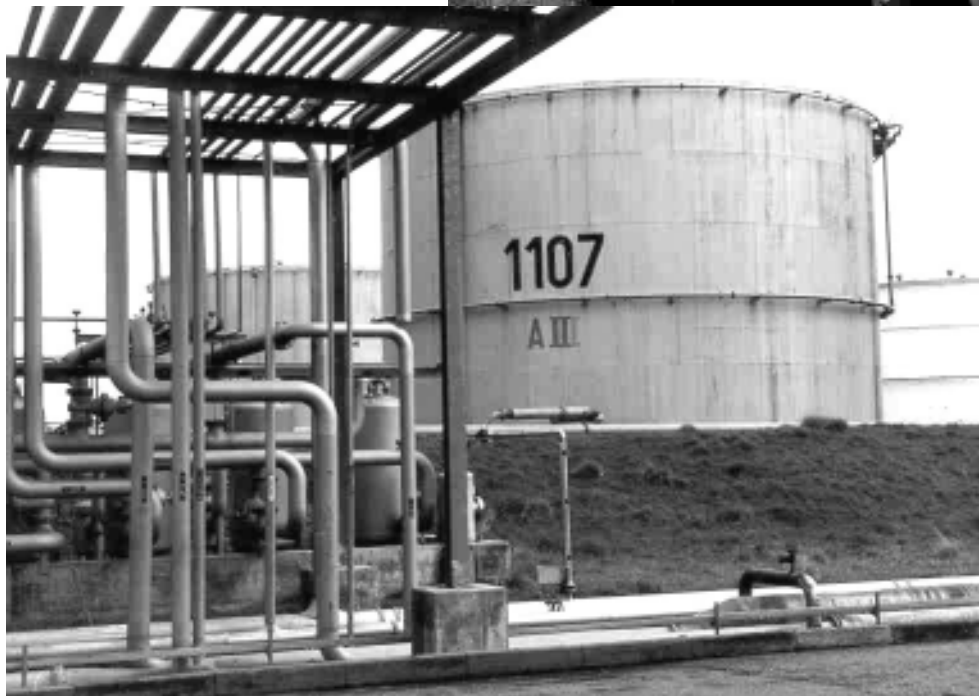


Natural gas tanks.

Richard Schmitt, DESC-Miesau quality surveillance representative, inspects fuel at the pipeline exit point to check appearance, color and sediment before fuel enters tank farm.



DFSP SPEYER



One of three storage tanks dedicated to DESC's use.

PROFILE. . .

Colonel Stephen P. Passero Commander, Defense Energy Support Center–Europe

By Claire McIntyre

[Col. Stephen P. Passero's military service in Germany dates back to 1983 when he served as the petroleum officer in the 3rd Armored Division, Division Materiel Management Center, in Frankfurt. After serving for 10 years in the United States, Col. Passero returned to Germany in 1996 as United States European Command joint petroleum officer and later as chief of the Joint Logistics Operations Center in Stuttgart. He assumed command of Defense Energy Support Center-Europe in August 1999 after attending the U.S. Air Force Air War College at Maxwell Air Force Base in Alabama.]

Ask Colonel Stephen Passero about his job as the commander of Defense Energy Support Center-Europe and you will find him perched on the edge of fascination. Nothing jaded about having an area of responsibility like this. Cross a border and enter a new culture, entirely different from the one you just left, find a different political

framework, government, language and resources. All these separate countries and your mission, supplying fuel, remains constant, despite the profoundly changing landscape.

Talk about the complications and intricate coordination of moving fuel through Europe and Col. Passero's animation makes its entrance. He hardly mentions the routine, easily accomplished tasks. But there's lots happening outside the parameters of his region that commands his attention.

"The dynamics of the oil business are such that it is no longer regional," he observes. "It is, in fact, global. So what happens in East Timor has a definite effect on what's going to happen in France. Watching all that dynamic is good for us."

DESC's recent humanitarian relief efforts in Africa following the



Col. Stephen P. Passero, USA



floods in Mozambique catapults the commander into a discussion of the changing nature of his region.

In Africa, he points out, another civil war could break out at any moment, that, in fact, there are 28 separate wars going on in Africa on any given day, and a wide assortment of people present as a result of the conflicts. "There's the ambassador and his staff, non-governmental agencies such as the Peace Corps. . . we have oil people, we have all sorts of people all throughout Africa. One of the tenets that we as Americans have is we will protect American

lives wherever and whenever. So you can't say, 'Well, there are Exxon oil workers down there so Exxon has the responsibility.' Wrong answer. They're Americans. We as the United States have the responsibility, so we always have to be prepared to evacuate these folks. And my job in that is to provide fuel for strategic airlifts, for tactical support."

But Africa is not a new concern for Col. Passero. He has been working on getting pre-positioned fuel, a scarce commodity there, into the continent for years. "This is one of the best initiatives for safeguarding our U.S. forces and U.S. citizens down in Africa that we've come up with in a long time. This started when Gary Bradley [the late Col. Gary Bradley, former DESC-Europe commander] was here and I was down in JPO [Joint Petroleum Office] and he and I were pulling our hair out trying to get fuel down to Africa. It seems all the stars came together at the right time and we were able to get authorization for contingency storage of fuel. I'm excited to be at the ground level on this one. This is a textbook example of 'We know what the problem is. What's the best solution?'"

He turns to the Rwanda massacre of 1994, describing the process of moving fuel to its destination. Fuel arriving by sea on the eastern coast of Africa would then travel via pipeline to the line's end. The fuel was then trucked for 200 miles to another pipeline, again moved through the length of the line, and was trucked again to its final destination.

"But that 200-mile bridge by truck would take over two weeks because the road network is so bad," says the commander. "When you're talking about supporting C-5s with

an infrastructure like that, you can't get there from here. So we have to be well out front of the power curve in order to be prepared to have fuel on the ground when the first plane arrives. If you haven't got it when the first plane arrives, then you're late. So how do you get fuel where there is no fuel? That is not an effort that we can do alone. We work with the Center, with contracting and operations personnel."

The critical role of collaboration rings throughout Col. Passero's description of DESC-Europe operations. No action, no successful mission can be accomplished without consensus-building and detailed coordination, particularly in a setting where language and customs vary rapidly. In Europe,

"We need to break away from the Cold War rules that we had for 50 years. We need to move away from the way we always did business and I think it's a great thing."

DESC works closely with the Air Force, U.S. Air Forces in Europe (USAFE) and European Command (EUCOM)—to name just a few alliances.

"You go throughout the region and see what your capabilities are," he explains. "Then you come back with the information, you assimilate it and you put it on the shelf. You then work with the other nations because, if you don't, you're going to find that all your planning has just gone out the window. Everybody is drawing off the same resources so you have to be very careful that you

don't say that you can get a specific amount of fuel, for example, 125,000 gallons a day, that equates to this many aircraft. Because if you do that in your own vacuum, the French, the Belgians or the Germans are going to come in, and they're drawing from the same contractor. A lot of times it's a consortium that runs the air field. So our guaranteed 125,000 gallons a day may end up being 15 because we didn't take into account the other customers that this consortium is going to have.

"So we have to make sure that we deconflict the use of all these resources. That's probably our biggest concern today, that we go into a contingency with the full knowledge of everybody else that's involved so we know how best to divide up the resources so that we're all supported."

Reductions in U.S. military forces in Europe have naturally meant reductions in fuel requirements. "Our threats today are mainly in the Pacific area and the Middle East," observes the DESC-Europe commander. "But you can't get to the Middle East without coming through us," he adds.

The need to see past formal boundaries in his area of responsibility, the idea that developments in East Timor reverberate in France, rebounds as Col. Passero recollects his own experiences as a captain stationed in Europe during the Cold War. "Inside my small sector, I knew where every gas station was, where my fuel was, how to get it, where to put it. I knew which roads to take to get to which fighting positions. But outside of that small sector, I had no idea. Those days are gone because

continued on page 14 ➤

*Passero. . .
continued from page 13*

I now have this huge area. And we're now involved more and more in the humanitarian plight of folks in areas that we were never really concerned about."

DESC's presence in Bosnia further illustrates his point. "We are constantly looking at what's going on in Kosovo and Bosnia. When they start having ethnic trouble out there, the possibility of needing increased support becomes very likely," he says. "Folks are turning to us more and more for support and that's a good thing. That's what we're there for. A potential customer asked me recently, 'Why do you want me for a customer? What are you getting out of it?' I said, 'I'm not getting anything out of it. It's my job. By law, I cannot make money from you nor can I lose money. We work on a break-even basis. I get no benefit other than the satisfaction of being able to support you.' He said, 'That's an interesting philosophy.'" The colonel is suspended halfway between incredulity and amusement as he relays the customer's reaction.

Given all the dynamics of the European theater of operations, how well is DESC accomplishing its mission?

"It amazes me that DESC can do so well," says the commander. "In talking with the warfighting commanders around here, they don't even think about fuel because they don't have to think about it. Down in Bosnia where we're supplying fuel to quite a few nations, they've never had a shortfall, even in the worst weather. The folks we contract with are top-notch and they work hard.

It all blends together and it's phenomenal to watch. No one even worries about it."

Constantly shifting requirements, resources and threats, whether from enemies, natural disasters, or political upheavals, make up the expected elements of Col. Passero's operations. "Our adaptability is one of our greatest points in the U.S. military environment," he says. "We need to break away from the Cold War rules that we had for 50 years. We need to move away from the way we always did business and I think it's a great thing."

The commander casts his eye toward another area not usually associated with his command. "If things escalate, we are prepared to escalate. If decisions are made to move out of an area, we are prepared to reduce our presence. In a particular area, you never know what's going to happen. Like right now, you have the Russian elections. Is Russia in our area? No. Do they have influence in our area? Absolutely. So I'm watching the Russian elections. All they have to do is just start speaking and different things start happening and we have to be prepared for that."

As Col. Passero talks about how "you have to know your enemy, but you also have to know your friend," that "you either move the plane or move the fuel," that a small number of people carrying out a large European mission within political maelstroms is difficult but extremely rewarding, and how important it is to watch developments unfolding in the entire world, he speaks from his office in Wiesbaden, Germany. . . from the edge of fascination. ★

DESC-Europe's Operations Division

***Few in Number,
Many in Talents***

By Lloyd Thomas, III

We are the division of Defense Energy Support Center-Europe responsible for Europe's bulk fuel transport, storage, distribution and related services. We are the Defense Logistics Agency's forward arm to provide for the fuel needs of the United States European Command and other CINCs [Commanders in Chief] as necessary from Europe.

What is DESC-Europe's Operations Division to me?

Aside from being three office branches—Logistics Plans, Logistics Support, and Logistics Management—we are an interaction among one another. We are a team of interaction with the troops we support, with our outer offices, and with our colleagues at Fort Belvoir. We are a total of five to seven people in three different branches, each with its own agenda and priorities, yet highly dependent on the others in order to complete DESC's mission.

Logistics Plans is a two-member team with Chuck McWilliams as chief and Master Sgt. Dave Alexander assisting. For more than a year, they've made great strides with their focus on international agreements. Some of their accomplishments are: a five-year renewal agreement in Italy for pipeline support to Aviano Air Base; consolidation of fuel stocks in Turkey and follow-up agreement to share in Turkey's fuel stocks in times of increased activity; the consolidation

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DESC-EUROPE NEWSMAKERS...



DESC-Miesau Commander Maj. Shawn Walsh makes comments prior to change of command at DESC-Split (Croatia). Left to right: Maj. Walsh; 1st Lt. Jason Schneeberger, incoming DESC-Split commander; Master Sgt. Art Hebert, DESC-Split NCOIC; and 1st Lt. (P) Dale DeStefano, outgoing DESC-Split commander.



1st Lt. Jason Schneeberger, DESC-Split incoming commander, left, and 1st Lt. (P) Dale DeStefano, outgoing commander, offer mutual congratulations.



DESC-Europe Commander Col. Stephen Passero, right, congratulates Capt. Dale DeStefano after May 3 promotion ceremony at Miesau, Germany.

Left: Wilhelmus Van Helden, general manager, Central Europe Pipeline Management Agency, and DESC Director Jeffrey Jones.



Left to right: DESC-Europe Deputy Commander John Goodworth; Wilhelmus Van Helden, general manager, Central Europe Pipeline Management Agency; DESC Director Jeffrey Jones; and David Wright, director, Infrastructure and Logistics Division, U.S. Mission to NATO.



Kaiserslautern Petroleum Laboratory

The Defense Energy Support Center's only petroleum laboratory in Europe is located in Kaiserslautern, Germany. Its mission: to conduct testing on all petroleum products, including jet fuel, diesel fuel, heating oil, greases and hydraulic fluids for military installations located throughout Europe.

Created in 1956 as a U.S. Army lab, the facility came under DESC's management in 1993. In line with the diminishing number of military units stationed in Europe, the laboratory presently processes about 4,000 samples a year, down from a previous average of 10,000.

Much of the lab's work, about 75 percent, consists of an Army filter effectiveness program that measures the amount of dirt and sediment, or particulate contaminants, remaining in fuel after it has passed through a filter/separator. In addition, every three months, under DESC's Into-Plane program, contractors supplying fuel to military and government aircraft at commercial airports send a fuel sample to the lab for testing. Contractors from Europe, Africa and parts of Asia participate in the testing.

Other operations performed by lab personnel include routine quality surveillance, for example, on rail car samples. (Quality surveillance pertains to testing fuel quality once DESC has taken ownership of the product. Quality assurance pertains to testing fuel quality at the refinery

or supply point, before delivery to DESC.) The lab also tests packaged products to determine if shelf life can be extended and also provides hands-on training for military service lab technicians following formal training. Orientations also aid fuel handlers in the proper procedures to take samples (i.e., don't drop the nozzle in the dirt).

The lab also provides training for personnel at the Army's 1st Infantry and 1st Armored Divisions stationed in Germany who man air mobile laboratories. Frequent rotation of personnel disrupts operational continuity of the mobile labs; DESC's Kaiserslautern lab provides training to new mobile lab technicians.

For the past year and a half, Army Sgt. 1st Class Ed Hand has served as NCOIC (noncommissioned officer in charge) at the lab and as acting chief

since August 1999. Currently employing four staff members, the lab numbers six personnel when fully manned.

Walk with Sgt. 1st Class Hand through the laboratory and get swept away by table after table of fuel testing equipment—a reflux contraption with hose to measure lead content (soon to be replaced by an x-ray spectrometer that will bring the all-day test down to 15 minutes); a lit wick to test sulfur content (a sulfur by lamp test unit); viscosity baths; a cold filter plugging point test for European diesel (the temperature at which fuel will no longer flow through a filter because paraffin in the fuel begins to crystallize); flash point tests; and vapor tests that measure the pressure of gasoline. "Vapor lock occurs when gas vaporizes before it reaches the carburetor in the fuel line," explains Sgt. 1st Class Hand.



Army Sgt. 1st Class Ed Hand, NCOIC and chief of DESC's Kaiserslautern laboratory, and lab technician Stephanie Gustafsson.



The laboratory's "Hall of Shame"—fuel samples that didn't pass quality tests.

Then there's the thermal oxidation test that measures thermal stability of the fuel. "It determines if the fuel will break down, or oxidize, at the high temperatures the fuel is subjected to in an aircraft during flight," notes the lab chief. "The freezing point is the point at which fuel begins to crystallize, usually below -47 degrees Celsius for JP-8. We perform thermal oxidation, freezing point, and flash point tests on samples we receive from our Into-Plane contractors." Other procedures include combustion, filtration and lubricity testing (how well the oil sticks to, and thus lubricates, the surrounding surface). Anywhere from 12 to 15 tests are conducted in analyzing JP-8 fuel.

An odd row of assorted bottles sits on a high shelf, all containing liquid of varying hues—fuel samples that didn't pass the laboratory's tests. Sgt. 1st Class Hand's "Hall of Shame." Closer inspection reveals interesting details. A long-dead bee rests on the bottom of one sample. While most samples arrived at the lab in conventional gallon jugs or mason jars, one arrived in a Jim Beam bottle, another in a beer bottle. "They'll send them in anything," says Sgt. 1st Class Hand.

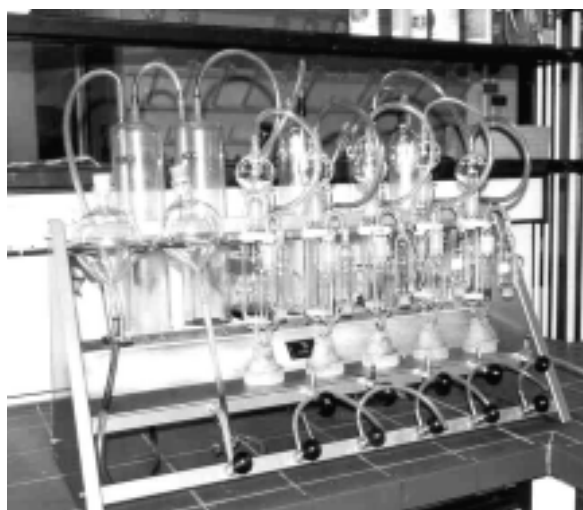
Technologically, the lab has made great strides in recording and transmitting test results. Since January, personnel have been able to input test results into a database and send test results to customers electronically. Every time a sample

fails a test, another lab technician repeats the test to verify the results.

Sgt. 1st Class Hand says he doesn't know the answer to only one question: Why is the glass window on an interior door strangely melted

and discolored? There's a story there. But the Kaiserslautern petroleum laboratory, like any laboratory, has its secrets. ★

[Sgt. 1st Class Hand was promoted to master sergeant on April 1, 2000.]



Sulfur by lamp test unit that measures amount of sulfur in jet fuel, diesel fuel and gasoline.



The jet fuel thermal oxidation test measures thermal stability of fuel. The unit on the right requires external water and nitrogen. The newer, standalone model on the left requires only electricity.

Defense Energy Support Center— NATO

BRUSSELS, BELGIUM

By Claire McIntyre

Defense Energy Support Center-NATO is a one-man office located in Brussels, Belgium, with a mission to represent the United States' interests on all petroleum-related issues to NATO (North Atlantic Treaty Organization). But because NATO is a multinational organization, DESC's mission stretches beyond the interests of the United States.

Decisions are reached by consensus at NATO, which means that every member nation's interests play a role in formulating the organization's policies. So how, exactly, do NATO's activities impact DESC?

First, meet Philip Anderson—the sum total of DESC-NATO. His office resides in the NATO Headquarters building in Brussels. Accompany him to an all-day meeting of the NATO Pipeline Committee to see just how DESC, petroleum and NATO come together.

Enter the meeting room where members hold discussions around a huge oblong table. Translators positioned in a sound studio broadcast the speakers' words in French and

English. Whether the country representative speaking at any moment is Romanian, Czech, Bulgarian, German, French or Danish, a set of earphones will help to bridge language barriers.

During a discussion of the use of JP-8+100 fuel, Belgium reports that they will most likely convert to the fuel, Denmark reports that they expect full implementation within a month's time, Germany and the United Kingdom have not yet resolved the issue, and the Netherlands reports a filtration problem with the fuel.

Another issue on the table, Jet A-1 (F-35) availability in Europe for the next 10 years, includes a presentation from BP Amoco. Since the European Union recently passed environmental legislation requiring low sulfur content in diesel fuel (ultra low sulfur diesel), demand for kerosene, the main ingredient of the fuel, has grown, and will continue to grow, markedly. Jet A-1 imports are projected to rise dramatically because of the resulting shortage of kerosene. According to BP Amoco, increased European demand will also lead to an increased focus on marine



Philip Anderson, DESC-NATO fuels representative

safety because of increased cargo movements by water.

Fuel topic discussions continue—a report on fuels activity in Romania, Y2K, the single fuel concept. Air Commodore Paul Hedges of the Defence Fuels Group, DESC's British counterpart, delivers a presentation on the United Kingdom Government Pipeline and Storage System. (Out of the nine NATO pipeline systems, the Central Europe Pipeline System, consisting of 6,000 kilometers of pipeline and storage facilities located in Germany, Belgium, France, Luxembourg and the Netherlands, is the largest by far. Add the United States, the United Kingdom and Canada to arrive at the full list of member nations.)

One meeting for Philip Anderson, one day, and a host of countries and

interests. Here at NATO, the United States is one voice in a group of many. As DESC's ambassador to NATO, Mr. Anderson must know more than just what the U.S. position is with regard to fuel. He has to know how to properly communicate that position and how to work with other nations to resolve countless issues. He also has to communicate NATO member positions to various divisions of DESC, both in the regions and at Fort Belvoir, to resolve or prevent conflicts.

"They do business differently over here," observes Mr. Anderson. "When they take a coffee break, they're conducting business. A lot of business is conducted at social gatherings, so there's not the distinction between business meetings and social events that everyone is accustomed to in the United States."

But one meeting is not enough to fully appreciate the scope of NATO's fuel concerns.

"There's always the matter of interoperability of equipment," says Mr. Anderson in listing some of NATO's recurring fuel issues. "For example, Poland, the Czech Republic and Hungary are new NATO nations. Can they hook up to the refueling hoses supplied at NATO and other member nation fuel facilities? What kind of fuel do we use to heat the tents in Kosovo?"

Regarding the latter question, the U.S. Army uses both flued and unflued heaters. Flued heaters can use JP-8, a kerosene-based fuel with additives. But JP-8 presents a safety problem if used in unflued heaters—the additives and high sulfur content result in the release of toxic fumes into the tent. Because the U.S. Army in Kosovo was using unflued heaters, a higher grade of kerosene

without additives was necessary to heat the tents. DESC turned to France as Role Specialist Nation for Kosovo to provide the required product. Mr. Anderson and DESC-Europe quality personnel worked with representatives from the CEPS pipeline and French military authorities to determine pricing and ensure that the French kerosene met safety specifications.

"The U.K. has asked us to brief them on how to set up a fuel pricing system," adds Mr. Anderson as he continues to describe how the countries interact.

In addition, an initiative currently in progress may expand DESC's bunker fuel program that provides direct delivery of ships' bunker fuel. NATO countries have expressed interest in participating in the program, which would provide them the same contract prices available to DESC customers. Preliminary planning provides for the NATO Maintenance and Supply Agency, the NATO equivalent to the United States' Defense Logistics Agency, to solicit, award and manage the contracts for the first few years. Thereafter, the NATO contracts may become part of DESC's overall bunker fuel

program. "We are very excited about this possibility of further

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Above, the descent into Philip Anderson's garage.



At eight feet long, the two-seater Smart Car allows easy parking in tight city spaces.

international cooperation,” reports Mr. Anderson. “But the future of DESC’s participation in this initiative will depend on the success of the test period.”

And when France passed national legislation to reduce its work week to 35 hours, the country needed to increase its number of workers on the Central Europe Pipeline System to continue the pipeline’s seven-days-a-week, 24-hours-a-day operations. If extra personnel were not hired, the pipeline would have to reduce its operations, curtailing commercial fuel deliveries as military requirements received top priority. Members of the NATO pipeline system may not have been pleased initially with the increased cost of operating CEPS, but when calculations revealed that lost revenue due to decreased fuel movements considerably outweighed costs involved with hiring additional personnel, CEPS members agreed to fund the extra personnel.

Aside from the distinctly international ambience that defines the city, what else distinguishes Brussels?

Cars. They’re *very* small. Streets are very narrow and cars are parked in every conceivable space. Drivers’ depth perception must be excellent to negotiate the tight spaces. On some streets, there are no stop signs, yield signs or traffic signals despite the presence of intersecting streets. How do you know who has the right of way? The prevailing rule—priority to the right. When approaching an intersection, the driver to the right has the right of way.

Follow Mr. Anderson to his home and suddenly his VW “Bug” disappears from sight. The white vehicle is progressing down a residential street when it vanishes. He makes the careful, steep descent backward into a garage not noticeable to the untrained eye. No space goes unused.

But later, on a Brussels street corner, Mr. Anderson points out something novel from the automotive world that gives new meaning to the word “small”—the Smart Car, a joint venture between Mercedes-Benz and the Swiss watch manufacturer SMH, otherwise known as Swatch Watch. “Smart Cars are so small,” observes Mr. Anderson, “that you don’t even need to park them to go into a restaurant. Just fold them up and put them under the table.”

Which brings up the question: Why are European cars so small? Because the streets are so narrow. When European cities were first constructed, there were no cars or traffic to accommodate. By contrast, U.S. cities constructed much later than their European counterparts were built for vehicular transportation, thus the more spacious roadways. The price of fuel in Europe doesn’t help either. Filling up the gas tank of an average small car in Belgium costs about \$60; in England, about \$100.

Negotiation, it seems, comes in all sizes, from large NATO meeting rooms to small urban parking spaces. ★

[Philip Anderson, who joined DESC in 1987 as a systems accountant, served as the agency’s budget officer at Fort Belvoir before becoming the NATO fuels representative in October 1998.]

and account closure of air bases in Spain; planning a new, more dynamic fuel exchange agreement with the Spanish Navy and Air Force; and coordinating better fuel positioning throughout the United Kingdom.

Logistics Support, comprised of two or three military personnel, is rarely at home in Wiesbaden [site of DESC-Europe headquarters in Germany]. Today, the chief is Capt. Ferguson Johnson, USAF, and his assistant is Sgt. 1st Class Wayne Holland, USA, who is temporarily assigned as the region’s computer specialist. Logistics Support is the Operations Division’s contingency crew, often on the go around Europe gathering and interpreting military data and fuel support capabilities. The last two chiefs, Maj. Dean Wilt, USA, and Capt. Jethren (Jet) Mattus, USA, each deployed as commanders of our Split office in Croatia, and both have spent time in Africa and Macedonia.

Deployed Logistics Support staff translate and validate the military petroleum requirement. They are our direct link with ground support and combat troops, deployed alongside to ensure we succeed together. They communicate capabilities and limitations, and they plan for the next contingency, exercise or non-routine operation.

From site surveys in Africa to emerging quality concerns, distribution shortfalls or force protection matters, Logistics Support coordinates our plan of action for any surfacing requirement. Once the requirement becomes routine, support responsibility shifts over to the Logistics Management branch, the day-to-day Operations folks.

I serve as chief of *Logistics Management*, a three-person team comprised of Lt. Kerry Heiss, USN, and Bill Brusso. It is our responsibility to manage the daily bulk fuel resupply mission as well as any other program in which we own the inventory, manage a transportation asset, or maintain fuel accountability. We routinely manage the fuel stocks at 47 sites, including 18 active military bases and several storage points supported by a host nation. We manage fuel movement through five major pipelines crossing nine nations, one full-time ocean tanker employed 24 hours a day, seven days a week, river barges, when needed, across Europe, rail tank cars in the Balkans and Germany, and tank trucks throughout Europe.

Lt. Heiss slates tankers across the region and coordinates with our field offices and military bases on almost all inventory moves and contract orders. Bill is our supply technician who focuses on fuel accountability and minimizing system glitches so our suppliers get paid appropriately. He's the system expert for us and the troops we support.

Together, our jobs require daily management and oversight. At any moment, we could see a dramatic increase in consumption, depletion of inventory, and lack of assets to cover contract requirements. This was particularly apparent last year. Consumption was so high, we forecasted that we would deplete our annual contract inventories in

two to three months. Our friends in the Bulk Fuels commodity business unit at Fort Belvoir moved quickly to buy more fuel.

In fact, none of Europe's operations would move smoothly without the support of our home base at Fort Belvoir. Likewise, the three separate branches of the Operations Division are hard to distinguish by any naming convention. Each branch depends on the other, and the Center as a whole, to fulfill DESC's European mission.★

[Lloyd Thomas served more than three years in Europe as a supply manager. He returned to Fort Belvoir in May 2000 as an inventory manager in the Bulk Fuels commodity business unit.]

Moving at High Speed

Or Why the Autobahn's Got Nothing on John Goodworth

You left Defense Energy Support Center-Europe's headquarters in Wiesbaden at the American Arms building days ago for a whirlwind tour of DESC's operations in Germany and Brussels. During a brief return to headquarters, Deputy Commander John Goodworth offers an illuminating look into one facet of the region's communication system.

He knows where you've been and what you've been doing. He knows details. He explains how.

Prior to accepting the deputy commander post in DESC-Europe in 1999, Mr. Goodworth served as DESC's director for resource management at Fort Belvoir. Fiscal

responsibility brings with it, according to Mr. Goodworth, expanded access to information. "Everyone spends money," as he explains it. "When they do, they've got to explain why and for what. The details attached to basic budget principles—expense reports, reimbursements, accounting for costs—pretty much puts you in the know on a lot of different matters associated with expenses." Add to that his simultaneous responsibilities in personnel and his prior experiences as an auditor, and the result is someone who is definitely "on the pipeline."

Mr. Goodworth learned early to keep his ear to the ground, once left speechless himself by the velocity of information transmission. Years ago,



John Goodworth, DESC-Europe deputy commander

running late for a meeting at the Pentagon with a lieutenant general, he received a telephone call from a personnel office offering him a job. He accepted the job on the spot, hung up the phone, and rushed out to his meeting. Apologizing for his tardiness after arriving at his destination, Mr. Goodworth was silenced by his host. "No need to apologize," said the general. "It's good to know you accepted the job."★

Defense Energy Support Center- *London*



★ Major Pipeline: Government Pipelines and Storages System (GPSS)—1500 miles of pipeline used by the U.K. Ministry of Defence, the United States, and commercial customers; owned by the U.K. government; total storage capacity—more than 12 million barrels. Since 1990, U.S. storage use in the pipeline has decreased by 49%; U.K. Ministry of Defence storage has decreased by 25%.

- ★ Commander: Capt. John W. Stublar, USAF (since October 1998)
- ★ Area of Responsibility: England and Norway (depots formerly located in Scotland)
- ★ Location: Eastcote, a suburb of London
- ★ Nine Defense Fuel Support Points located in England: Hallen, Killingholme, Satchell Lane, Aldermaston, Claydon, Rawcliffe, Sandy, Purton and Thetford



*DESC-London Commander
Capt. John W. Stublar, USAF*

★ All DFSPs in the United Kingdom are U.K. government-owned, contractor-operated (GOCOs).



Above and left: scenes from Piccadilly Circus



Kate Straub-Jones, administrative assistant, left, and Master Sgt. Maria Rodriguez, quality representative



Karolyn Maldonado, quality chief

DEFENSE FUEL SUPPORT POINT THETFORD

DFSP Thetford

- ★ Terminal manager—Dennis Barrett of Atlantic Power
- ★ Fuel enters the pipeline at Defense Fuel Support Point Killingholme from marine vessels.
- ★ Supplies fuel to Royal Air Force Mildenhall and RAF Lakenheath. Fuel is pumped every day, Monday through Friday, to one of the bases.
- ★ Ten tanks with a capacity of 35,000 barrels each. Six tanks are dedicated to U.S. Air Forces in Europe; four tanks to the Royal Air Force. All tanks store Jet A-1 fuel. (Addition of Fuel System Icing Inhibitor, Corrosion Inhibitor, and Static Dissipator Additive to Jet A-1 produces JP-8 fuel.) The semi-buried tanks, also called “cut and cover,” were built in the 1940s and are typical of British fuel storage tanks. Appearing as grass mounds in the landscape, the tanks are camouflaged from aircraft during wartime. In addition, the semi-buried construction provides protection from the elements.



Cut and cover storage tank.

- ★ Several ponds designated for firefighting, some filled with fish.
- ★ Two input lines, one dedicated to DESC.
- ★ Three truck loading racks.

DEFENSE FUEL SUPPORT POINT ALDERMASTON



Gary Clisby, DFSP Aldermaston site manager, left, and Peter Hawkins of the facility's control center.

DFSP Aldermaston

- ★ As the largest Defense Fuel Support Point in England, DFSP Aldermaston is equipped with 14 tanks dedicated to DESC holding 1.5 million gallons of fuel each. With five pipeline feeds, Aldermaston serves as a "hub" DFSP.
- ★ Storage capacity: 2 million barrels
- ★ 1998 issues: 200 million gallons
- ★ The pipeline control center, which monitors fuel movements for southern and western sections of the Government Pipelines and Storages System, is located at Aldermaston.

"It could be worse. It's not as bad as traffic in Tokyo."

—Capt. John Stublar during 10-mile back-up on M25 motorway heading toward London from Eastcote



Translations

English

Admiralty
advert
bank holiday
call box
car park
chemist
crisps
diary
diversion
film
Fleet Street
fly-over
football
fortnight
gearbox
hat trick
High Street
hire
in train
ironmonger
jam
jumper
letter box
lift
motorway
number plates
petrol
poppers
roundabout
rubbish
solicitor
specs
stone
timetable
tin
torch
underground
windscreen
wing
wireless

American

Navy Department
commercial
legal holiday
telephone booth
parking lot
drug store
potato chips
calendar
detour
movie
the press
over-pass
soccer
two weeks
transmission
a triple triumph
Main Street
rent
in progress
hardware store
jelly
sweater
mail box
elevator
freeway
license plates
gasoline
snaps
traffic circle
garbage
lawyer
eyeglasses
14 pounds
schedule
can
flashlight
subway
windshield
fender
radio

ROYAL AIR FORCE LAKENHEATH

RAF Lakenheath

- ★ Capt. J. Kevin Carrico, commander of the 48th Supply Squadron Fuels Management Flight
- ★ Refueling of aircraft conducted by truck—fleet of 17 R-11s.
- ★ First base outside the continental United States to use JP-8+100. Thirteen of 17 fuel trucks carry JP-8+100.
- ★ Storage capacity: 8 million gallons; six storage tanks of JP-8
- ★ Fifty hot refuelings per week (engines are kept running, saving 20 minutes during procedure)
- ★ Daily output: 200,000 gallons
- ★ Aircraft serviced: F-15s
- ★ On the horizon: two hydrant systems, pop-up pantographs and a base level laboratory



Capt. Kevin Carrico, commander of the 48th Supply Squadron Fuels Management Flight, right, checks JP-8+100 injector. In the background: semi-buried, or cut and cover, fuel storage tank.

ROYAL AIR FORCE MILDENHALL

RAF Mildenhall

★ Mildenhall base laboratory tests jet fuel and oils as well as aviator breathing oxygen and gases for U.S. Air Forces in Europe and all U.K. Defense Fuel Support Points. Ben Curtis, laboratory chief. Kevin Williamson, laboratory technician. Sign outside the laboratory door: "Ground Yourself Before Entering" (by touching a brass plate).

★ Capt. Wes Cox, commander of the 100th Air Refueling Wing Fuels Management Flight, manages an 8.5 million gallon inventory of JP-8 with a daily output of 135,000 gallons

(during Operation Allied Force, the daily output reached as much as 600,000 gallons). Biggest customer: Air Mobility Command and C-17s, C-5s and C-14s. The Fuels Flight supports Forward Area Rearming and Refueling Teams (five teams worldwide, one team in Europe) that conduct nighttime fuel operations for covert and special missions.

★ New billing reconciliation procedures saved the base

\$.5 million last year and saved wing commanders \$3 million through reimbursements not realized in previous years.

★ At the Resource Control Center, the Fuels Manager database monitors tank activity throughout the base. If a tank is off-line, too full or too low, a beep will alert personnel. The automated system replaces the manual method of dipping a tape into a tank to measure fuel levels.



Capt. Wes Cox, commander of the 100th Air Refueling Wing Fuels Management Flight, second from left, with members of the Fuels Flight's management team.

Sr. Airman Harold Rodriguez monitors fuel activity at RAF Mildenhall Resource Control Center.





Ben Curtis, laboratory chief, RAF Mildenhall



DESC-London Commander Capt. John Stublar, right, assists Kevin Williamson, lab technician, at RAF Mildenhall laboratory.

RAF Fairford

- ★ Will be out of full operation for the next two years during a major overhaul to upgrade the facilities and increase aircraft handling capability
- ★ Additions: Two 1.5 million gallon tanks; new Gemini filtration system to distribute up to 1.2 million gallons of fuel per day; 15 outlets for wide-body or tanker aircraft; \$1 million revamp of existing "V" tank; new fuels operations building and refueler park
- ★ Renovations to take place in three phases, beginning in spring of 2000 until the end of 2002. Fairford scheduled to be open for aircraft activity in spring of 2001. Phase 1: main runway, north taxiway, southwest loop and fuels system and receipt manifold. Phase 2: new central fuels system (two 1.5 million gallon tanks) and revamp of "V" tank (a 1.5 million gallon semi-buried tank built in

1957) and new pressure ring main. Phase 3: new southeast fuels system (two 1.5 million gallon tanks).

- ★ Storage capacity will increase from 3.1 million to 13 million gallons. Maximum dispersal rate will be 12 million gallons per day via 15 pantographs pumping at 600 gallons per minute. Sustained daily usage estimated at 1.7 million—850,000 gallons via pipeline, 840,000 gallons via truck
- ★ Planning for RAF Fairford's renovations dates back to 1989, but was stalled by funding problems. (Funding for current revamping: \$140 million—NATO; \$16.1 million—Air Mobility Command).

ROYAL AIR FORCE FAIRFORD



Barry Muscroft of Serco Gulf Engineering, contract manager at RAF Fairford.

Phytoremediation—

How Plants Clean Soil at Fuel Terminals

By Joseph Trani, Facilities and Distribution Management

As visually appealing as they are, plants have a unique ability to improve the environment beyond their aesthetic value. They can actually clean the soil—a significant capability, especially around fuel terminals and storage areas that may have varying degrees of contamination on the facility grounds.

Petroleum hydrocarbon contaminants are readily biodegradable and amenable to treatment using phytoremediation—the use of plant root systems to clean contaminated soil and/or groundwater. Plant roots have the ability to penetrate micropores in soil to remove tightly bound contaminants, which may otherwise not be removable by other conventional technologies.

Plants and trees remove organic subsurface contaminants using two major mechanisms:

- 1) Direct uptake of contaminants. Nonphytotoxic contaminants are accumulated and metabolized in the plant tissue; and
- 2) Enhanced biodegradation within the plant root system (rhizosphere). The plant exudes nutrient substances, oxygen and enzymes to stimulate the growth

of microorganisms that, in turn, break down hydrocarbon material into carbon dioxide and water. Plant growth is then stimulated by the formation of the carbon dioxide and water.

Trees, the most efficient, lowest-cost type of plant used for phytoremediation, are perennial plants with long life spans. Therefore, site remediation can continue for decades with little or no maintenance costs. Trees that are known for fast growth and high water usage, known as phreatophytes, are most frequently used for phytoremediation. Common phreatophytes include poplar, cottonwood, willow and eucalyptus. Poplar and willow trees have been planted at several locations throughout the world because of their flood tolerance and fast growth.

Poplar trees, with their deep root systems, have been “engineered” to facilitate the uptake of contaminated groundwater up to 30 feet below ground surface. Under optimal conditions, a single poplar tree can draw as much as 50 gallons per day from the water table—a natural pump and treat system.

Pilot Project at San Pedro

In March 1998, a phytoremediation pilot test was initiated at the Defense Fuel Support Point located at San Pedro,



California, by staff from the Defense Energy Support Center's Environmental Quality and Safety Management division. In November 1998, 110 Lombardy poplar trees were planted on a half acre parcel of land above two known subsurface diesel fuel plumes in the pumphouse area of DFSP San Pedro. Poplar trees were chosen because of their local availability and fast-growing, deep-rooting characteristics.

According to the Los Angeles Regional Water Control Board, which approved the pilot test work plan, the project was the first of its type in Southern California.

Prior to planting, an agronomic analysis was performed on soil samples obtained at various depths within the pilot test area. Soil testing determines if nutrients must be added to the soil to sustain the trees. Additionally, water balance is determined to project anticipated irrigation requirements. Factors involved in determining water balance include local area precipitation, surface water run-off, wind effects, plant water uptake demand (consumptive use or evapotranspiration), soil water retention and deep soil percolation.

Twelve-foot poplar trees were planted at the site in holes 4 feet deep and 4 feet in diameter. Soil enhancements were added prior to backfilling the holes. An automated, deep-watering irrigation system was then installed.

In March 1999, DESC environmental consultant IT-GTI discovered that the two small diesel plumes identified earlier were, in fact, one much larger plume that had spread off-site in a northeast direction. Product recovery wells were installed immediately to remove free diesel fuel product from the water table. Three respirometry wells were also installed within the center of the poplar tree area so oxygen and carbon dioxide concentrations could be obtained to monitor bioactivity within the area.

In August 1999, vertical aeration pipes were installed at the drip line of trees planted directly above the known diesel fuel plume. Vertical piping transmits oxygen to accelerate tree root growth and channel the roots downward toward the water table. Also, additional oxygen delivered through the pipes increases bioactivity (passive bioventing).

It was imperative that an engineered mechanical remediation system be installed rapidly in order to keep the plume from further spreading off-site. By March 2000, IT-GTI installed a mechanical system consisting of six total fluids extraction wells (pump and treat) and 10 air injection wells (active bioventing) to aggressively contain

and remediate the newly discovered hydrocarbon plume.

So now we actually have four systems working simultaneously—phytoremediation, pump and treat, active bioventing and passive bioventing. The poplar trees should remove the soil-laden source of diesel fuel as their roots descend to the water table, where they will then become a natural pump and treat system.

Shortly after DESC launched its phytoremediation test project, others became extremely interested in the technology. DESC shared its pilot test work plan with Tosco Refining and Kinder Morgan Pipelines. Soon after, these companies initiated phytoremediation projects of their own in Wilmington, Avila Beach and Norwalk, California.

At the San Pedro test area, soil sampling and testing are now being conducted. Tree and root core as well as leaf samples will also be analyzed. All of this data will be used to monitor the effectiveness of phytoremediation.

DESC can only benefit from the project. In addition to the environmental benefits, the trees can always be harvested in years to come. Since poplar is a choice hardwood used for furniture and cabinetry, the lumber can be sold commercially at a premium price. Once again, the Defense Energy Support Center finds itself on the cutting edge. ★

Joseph Trani, an environmental engineer at Defense Energy Support Center-Los Angeles, is author of DESC's phytoremediation pilot project work plan.

Planting Solutions

The Defense Energy Support Center began a phytoremediation project (the use of plant root systems to clean contaminated soil and/or groundwater) at its fuel terminal in San Pedro, California, in March 1998. What makes phytoremediation the preferred technology?

- **Moderate depth to groundwater (approximately 20 feet below ground surface) is reachable by tree roots, allowing treatment of the water table.**
- **Ample space exists for a phytoremediation system.**
- **Cost-effectiveness relative to other remediation technologies—low capital cost and little or no operation and maintenance costs.**
- **Non-critical time frame for site clean-up. DFSP San Pedro is a fully operational facility, as opposed to fuel terminals that may be closed and/or in a property transfer process.**
- **Establishment of a living plant system with aesthetic benefits.**

Defense Energy Support Center— Middle East

The Desert Tribe That ‘Makes It Happen’

Part 2 of 2

Source: Defense Energy Support Center-Middle East

[Located at the U.S. Naval Support Activity-Southwest Asia in Juffair, Bahrain, Defense Energy Support Center-Middle East provides bulk petroleum support to 26 countries comprising U.S. Central Command's area of responsibility. In part two of the DESC-Middle East story (see Fuel Line, Vol. 2, 2000 for part one):
How the region receives and supplies petroleum to its military customers.]

DESC-Middle East's Sources and Methods of Petroleum Supply

DESC-Middle East uses five methods to supply the warfighter with quality petroleum products. These methods are:

1. U.S. government-owned stocks stored in contractor-owned, contractor-operated facilities and Defense Fuel Support Points (DFSPs)
2. International agreements with Oman, Egypt, Bahrain and Jordan
3. DESC commercially owned and operated bunker (marine diesel) and into-plane (Jet A-1 fuel) contracts
4. Local procurement by contracting officers
5. “Assistance in kind” fuel support: Kuwait and Saudi Arabia

Defense Fuel Support Points (DFSPs)

The primary method of supplying the warfighter with petroleum product in the U.S. Central Command (USCENTCOM) area of responsibility is through the establishment of DFSPs. DESC-Middle East manages four contractor-owned and contractor-operated DFSPs totaling more than 6 million barrels (252 million U.S. gallons) in storage capacity. Two DFSPs are located within the Arabian Gulf and two are located on the Gulf of Oman and Southern Red Sea to support U.S. Navy requirements for ships transiting or operating in those areas. In carrying out DFSP operations, DESC-Middle East works closely with the staff at Commander, Logistics Forces, U.S. Naval Forces Central Command, the Naval logistics component for the Fifth Fleet's afloat units.

Upon loading at the refinery, conceivably anywhere in the world, the commercial tankers chartered by the Military Sealift Command bring

approximately 240,000 barrels (10 million U.S. gallons) of cargo to our designated contract DFSP locations that have available tank ullage (space). Upon arrival, the petroleum logistics officer (PLO)/quality surveillance representative (QSR) meets with the ship's senior officers, establishes a discharge plan, provides



USN Lt. Charles Colbert, DESC-Middle East quality surveillance representative, second from left, oversees measurement of a vessel's cargo.

oversight for measuring and testing the fuel, and verifies that it is on specification at the arrival location. The PLO/QSR's responsibilities include testing, properly accounting for, and offloading newly procured fuel (F-76 and JP-5) destined for DESC-Middle East's DFSPs.

Following these steps, the PLO/QSR orders the discharging to begin

and maintains close contact with the terminal managers during the operation. Nearly a day later, the PLO/QSR returns to the terminal and notes discharge specifics (total amount pumped and hourly pumping rates) of the operation. Once the pumping is complete, he ensures that all cargo and waste oil tanks are dry/empty.

After issuance of a dry tank certificate, preliminary gauging of the terminal shore receipt tanks ensures that they are within tolerance of the load port (refinery) measurements. The commercial tanker is released when the PLO/QSR is confident that loss or theft has not occurred. After the fuel in the receipt tanks (ashore) has settled for 24 hours, the PLO/QSR returns to the terminal to ensure that the product is tested, the final quantity measurements of the receipt tanks are still within tolerance, and the DFSP cargo receipt operation is complete.

International Agreements

International agreements also provide a method for DESC to support the warfighter. Currently, there are four such agreements with Oman, Egypt, Bahrain and Jordan in the form of a Memorandum of Agreement (MOA). The director of the Defense Energy Support Center at Fort Belvoir, Virginia, and the host nation's Ministry of Defense sign the agreement. The methods for requirement submission, pricing, accounting for fuel received, payment by the U.S. to the host nation, and other particulars are discussed in the MOA. In 1999, DESC-Middle East revised the 1994 Egyptian/U.S. MOA to reflect the changing needs of USCENTCOM, primarily U.S. Army Forces Central Command (USARCENT), the U.S. Army's component for USCENTCOM.

Per Joint Chiefs of Staff doctrine (Joint Pub 4-03, "Joint Bulk Petroleum Doctrine"), the U.S. Army has the primary responsibility for inland distribution of petroleum from the high water mark on the

beach to the forces inland, including airbases (U.S. Air Force and Marine Corps). The U.S. Navy's Military Sealift Command is responsible for distribution of petroleum products from afloat locations to the point ashore where the U.S. Army picks the product up—at the beach termination unit.

During Exercise Bright Star 99/00, USARCENT wanted to receive JP-8 aviation fuel instead of receiving commercial grade Jet A-1 fuel and having to blend it with the three additives that the U.S. military requires—Corrosion Inhibitor, Fuel System Icing Inhibitor and Static Dissipator Additive. All three additives are essential for the safe and efficient operation of U.S. military tactical aircraft. In order to properly conduct blending operations, the U.S. Army and Air Force supply additional equipment such as fuel pump assemblies, hoses, filter/separators, meters, valves, etc.

To fulfill the needs of USARCENT, staff from DESC-Fort Belvoir and DESC-Middle East successfully negotiated with the Egyptians to receive JP-8 throughout the course of the exercise. Additionally, we negotiated to receive JP-5, a fuel preferred by U.S. Navy aviation units operating from afloat assets. JP-5 has a much higher flash point



Defense Fuel Support Point Star Energy.

than JP-8, thus the chances of JP-5 igniting while stored aboard ship are less than that of JP-8.

Overall, the units involved in Bright Star 99/00 consumed 4.2 million gallons of fuel in a 10-week period. DESC-Middle East ensured that the service components of USCENTCOM were accurately supplied with fuel and billed accordingly for approximately \$4 million worth of fuel.

Bunkers and Into-Plane Contracts

The third method by which DESC supports the warfighter with aviation and diesel fuel is by "short notice, ready to issue" contracts at commercial locations. DESC-Fort Belvoir negotiates and contracts for 13 bunker and 21 into-plane sites throughout the area of responsibility. If time, location and availability are critical to the warfighter, marine gas oil, which is an acceptable substitute for F-76 and commonly used by afloat fossil fuel burning units, can be acquired directly from the commercial contractor via local purchase.

The same is true with aviation fuel needs. Jet A-1 can be acquired directly from commercial into-plane providers. DESC has established a network of host nation airports

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*Middle East. . .
continued from page 31*

where U.S. military aviation units operating within or transiting through the area of responsibility are able to locally purchase commercial grade aviation fuel (Jet A-1).

Typically, DESC-Middle East will receive calls from ships, or customers will stop by the office at the Naval Support Activity in Bahrain and ask how they can acquire fuel outside the normal DESC/USCENTCOM lines of supply. We provide the customer with a list of phone numbers of the into-plane and bunker contractors who offer the desired petroleum product. Typically, there is a minimum 24-hour lead time. The end user (customer) will contact the contractor directly to arrange for delivery and payment of services.

Local Procurement by Component Contracting Officers

From time to time, our customers require petroleum support in small quantities with little or no advance notice. DESC-Middle East refers them to service-specific contracting offices around the area of responsibility. For example, the Navy Regional Contracting Office in Bahrain or U.S. Central Command Air Force's contracting officers at Joint Task Force-Southwest Asia in Riyadh, Saudi Arabia, will make arrangements for purchasing special fuels such as aviation gasoline or diesel fuel for generators at base level operations.

Assistance in Kind Fuel Support

The fifth method of supplying fuel to the U.S. Central Command Air Forces and U.S. Army Forces Central Command is via "assistance in kind" from the Saudi Arabian and Kuwaiti governments. Saudi ARAMCO, the aviation fuel supplier in the Kingdom of Saudi Arabia,

provides USCEN-
TAF forces operating out of Prince Sultan Air Base south of Riyadh with 65% of their fuel. DESC contracts for and procures the remaining 35%. In Kuwait, the Kuwait Aviation Fueling

Company provides USCEN-
TAF at Al Jaber and Ali Al Salem Airbases and USARCENT operating north of Kuwait City below the Iraqi border for Operation Intrinsic Action with 100% of their JP-8 fuel support.

In November and December 1998, just one month after assuming responsibility for fuel support for the U.S. military in Kuwait, DESC-Middle East deployed a petroleum logistics officer/quality surveillance representative to the Commander Joint Task Force-Kuwait at Camp Doha in support of Operation Desert Thunder. The PLO/QSR worked for the Defense Logistics Agency Contingency Support Team (DCST) commander as the Class III (bulk petroleum) officer. The advantage of filling this vital position with a DESC-Middle East staff member is that the individual is physically located within the area of responsibility. Upon receipt of a phone call or deployment order, anyone filling the position can arrive in any country within a matter of hours, versus days, to support the fuels mission.

Much of any organization's pride results from its past achievements. We at DESC-Middle East learn from the past so we can avoid repeating shortfalls in the future. We have taken the lead in our area of responsibility in persuading local contractors and host nations to look



The USNS Yukon, T-AO 202, a naval oiler, at sunset.

into the feasibility of supplying JP-8 directly to the customer and have achieved success with this approach in the United Arab Emirates and Saudi Arabia. Locations in those countries can receive JP-8 directly at the storage location as well as one into-plane location.

We are also working with USCEN-
TAF to establish a theater additive and special fuel policy that will allow DESC-Middle East to monitor in-theater requirements, but still allow the military services to maintain functional control to meet their specialized requirements. DESC-Middle East is constantly thinking ahead, planning ahead, and forging ahead to meet the military services' ever-changing requirements.

Adverse and harsh environments in the Middle East are many. The dangers are real, from the threat of terrorists, kidnappings, and biological attacks to the potential outbreak of hostilities at any time. The diverse population and cultural differences create rewarding experiences and challenges. Nevertheless, one should never forget that, like DESC, Defense Energy Support Center-Middle East's goal and mission is to provide "the right fuel in the right quantity at the right place at the right time." DESC-Middle East takes tremendous pride in the success they have had doing just that! ★